

Questioning as Formative Assessment:

GRECC Math Alliance
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Warm-up: The Best Question Ever

- As a table group, take a good look at the postcard you have been provided.
- If you could ask this person/people only one question, what would it be?
- The goal is to learn as much as you possibly can about who this person really is. Your question should not be too broad, nor too limiting.















Questioning is a BIG Topic

- Some Background and Research
- Wait Time
- Looking at Depths of Knowledge When Questioning During Discussions
- "Hands Down" Techniques
- Developing Questions from Learning Targets

Have you ever thought that your students had a great handle on the content and standards you had been focusing on only to find out on the summative assessment that the understanding they had was superficial and fragmented?

What is that all about?



Teachers spend up to 60% of instructional time engaged in classroom discussions.

Discussion sessions tend to rehearse existing knowledge rather than create new knowledge.

Educators listen for the “correct answer” rather than listening for what they can learn about student thinking.

The same 4 or 5 students tend to raise their hands to get called on to answer questions.



Mary Budd Rowe

She found a simple solution for engaging more children in classroom discussions:

“Try to get average wait-times up to a minimum of three seconds.”



Here are few direct quotes from her about the research she did in science classrooms in the 1970's:

"The length of relevant student responses or statements increases markedly. Among advantaged groups, the increase in the length of explanations is about 500%. Among less advantaged groups, it's about 700%."



"The number of unsolicited, but appropriate, comments increased. The wait-time seemed to provide students with a chance to hear each other. They tended to add to, or offer, counter opinions under the longer wait-time."



"Failures to respond decreased. These failures were as high as 70% in some classrooms. Under the three second wait-time, failure to respond dropped in some cases to 5%. Obviously, more students who typically avoided participation, took part in discussions."



Habits Are Hard to Break

A teacher with 20 years of experience will have asked something like a half a million questions in her career. And when you've done something the same way, half a million times, it's quite difficult to start doing it another way.

William (2003)



DOK (Depth of Knowledge)

Level 3: Strategic Reasoning

III A. Focus is on reasoning & planning in order to respond (e.g., write an essay, apply in new/novel situation). B. Complex and abstract thinking is required. C. Often need to provide support for reasoning or conclusions drawn. D. More than one "correct" response or approach is often possible.

Level 1: Recall

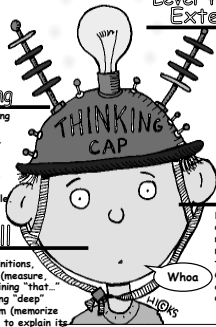
III A. Focus is on specific facts, definitions, details, or using routine procedures (measure, divide, follow recipe, etc.) B. Explaining "that..." C. Can be "difficult" without requiring "deep" content knowledge to respond to item (memorize a complex theory without being able to explain its meaning or apply it to a real work situation) D. Combination of level ones does NOT = level 2. E. One right answer

Level 4: Extended Reasoning

III A. Requires complex reasoning, planning, and thinking (generally over extended periods of time) for the investigation. B. Assessment activities have multiple steps with extended time provided. C. Students may be asked to relate concepts within the content area and among other content areas. D. Students make real-world applications in new situations.

Level 2: Skill/Concept

III A. Focus is on applying skills and concepts (in a familiar/typical situation) relationships (compare, cause-effect), main ideas. B. Requires deeper knowledge than definition. C. Explaining how or why D. Making decisions E. Estimating, interpreting in order to respond F. One right answer



Creating Questions

"More effort needs to be spent in framing questions that are worth asking: that is, questions that are critical to the development of student understanding."

Black et. Al., (2003)



"Put simply, the only point of asking questions is to raise issues about which a teacher needs information or about which students need to think."

Black, Harrison, Lee, Marshall, Wiliam, (2004). Working inside the Black Box: Assessment for Learning in the Classroom, Phi Delta Kappan: 9-21



Exit Question:

The following statement is true in relation to asking good questions in the classroom:

- a. Never give students more than one second to respond to your questions during a class discussion.
- b. Always ask students, "Does everyone understand?"
- c. The point of asking questions is so that the teacher knows what his/her students know, therefore informing instruction and moving students forward.
- d. This work is really easy and I'll be perfect at it the first day I am asking my students/teachers to begin this process.
- e. Don't worry too much about whether your questions relate to the standards.



Don't forget the real reason that formative assessment is just as important as summative assessment:

Everyone knows,

You can't fatten a hog by weighing it!



It's all about student learning.				
Period.				